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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/820,612

04/08/2004

Richard A. Sader

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05/18/2006

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EXAMINER

SHOSHO, CALLIE E

ART UNIT

PAPER NUMBER

1714

DATE MAILED: 05/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/820,612

Applicant(s)

SADER ET AL.

Examiner

Callie E. Shosho

Art Unit

1714

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>4/8/04 & 8/22/05</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 15-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Each of claims 15-18 discloses method of producing fixer fluid by combining phosphate ester surfactant and cationic polymer with an “ink vehicle”. Thus, the scope of each of the claims is confusing given that it is not clear why the fixer fluid is produced using ink vehicle. Further, the scope of the claims is confusing because it is not clear what is encompassed by the phrase “ink vehicle”. Clarification is requested.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this

subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-2, 5-7, and 15-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Suzuki et al. (U.S. 4,579,591).

Suzuki et al. disclose solution comprising 20-150 parts electrolyte, 0.2-20 parts cationic polymer, 10-200 parts salt of inositol hexaphosphate ester, and remainder water based on 1000 parts solution wherein there is no precipitation. There is also disclosed method comprising combining cationic polymer, salt of inositol hexaphosphate ester, and water. Attention is drawn to example 2 that discloses solution comprising 5% cationic polymer and 0.7% salt of inositol hexaphosphate ester (col.2, lines 28-36 and 52-61, col.3, lines 57-64, col.3, line 67-col.4, line 10, col.4, lines 35-36). Given that Suzuki et al. disclose solution comprising phosphate ester and cationic polymer as presently claimed, it is clear that the solution would inherently possess reduced coagulation as presently claimed and that the phosphate ester would inherently not precipitate with the cationic polymer as presently claimed.

In light of the above, it is clear that Suzuki et al. anticipate the present claims.

5. Claims 1-2, 4-6, 15-16, and 18 are rejected under 35 U.S.C. 102(e) as being anticipated by Kruckel (U.S. 2004/0206274).

Kruckel discloses composition comprising water, 0.01-10% oxyalkylene phosphate ester having 1-2 oxyalkylene chains comprising 5-15 moles ethylene oxide and 0.01-5% cationic polymer. There is also disclosed method comprising combining cationic polymer, oxyalkylene phosphate ester, and water (paragraphs 2, 20, 23-28, 30, 32, and 48). Given that Kruckel disclose

solution comprising phosphate ester and cationic polymer as presently claimed, it is clear that the solution would inherently possess reduced kogation as presently claimed and that the phosphate ester would inherently not precipitate with the cationic polymer as presently claimed.

In light of the above, it is clear that Kruckel anticipates the present claims.

6. Claims 1-2, 5, and 15-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Buckman et al. (U.S. 4,176,107).

Buckman et al. discloses composition comprising dispersion medium, 30-80% cationic polymer, and 1-20% phosphate ester of ethoxylated linear alcohol and alkylphenols. There is also disclosed method comprising combining cationic polymer, oxyalkylene phosphate ester, and dispersion medium (col.1, lines 39-45, col.3, lines 12-19, col.3, line 60-col.4, line 27, and col.5, lines 1-2, 6-10, 32-37). Given that Buckman et al. disclose solution comprising phosphate ester and cationic polymer as presently claimed, it is clear that the solution would inherently possess reduced kogation as presently claimed and that the phosphate ester would inherently not precipitate with the cationic polymer as presently claimed.

In light of the above, it is clear that Buckman et al. anticipate the present claims.

7. **NOTE:** It is noted that there is no disclosure in either Suzuki et al., Kruckel, or Buckman et al. that the composition is a fixer fluid as presently claimed.

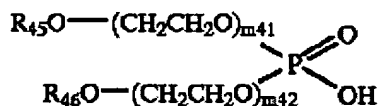
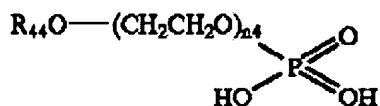
However, applicants attention is drawn to MPEP 2111.02 which states that “if the body of a claim fully and intrinsically sets forth all the limitations of the claimed invention, and the preamble merely states, for example, the purpose or intended use of the invention, rather than

any distinct definition of any of the claimed invention's limitations, then the preamble is not considered a limitation and is of no significance to claim construction". Further, MPEP 2111.02 states that statements in the preamble reciting the purpose or intended use of the claimed invention must be evaluated to determine whether the purpose or intended use results in a structural difference between the claimed invention and the prior art. Only if such structural difference exists, does the recitation serve to limit the claim. If the prior art structure is capable of performing the intended use, then it meets the claim.

It is the examiner's position that the preamble does not state any distinct definition of any of the claimed invention's limitations and further that the purpose or intended use, i.e. fixer fluid, recited in the present claims does not result in a structural difference between the presently claimed invention and the composition of Suzuki et al., Kruckel, or Buckman et al. and further that the composition of each of Suzuki et al., Kruckel, or Buckman et al. which each contain phosphate ester and cationic polymer as presently claimed is capable of performing the recited purpose or intended use.

8. Claims 12-14 are rejected under 35 U.S.C. 102(e) as being anticipated by Momose et al. (U.S. 6,749,675).

Momose discloses ink jet ink comprising colorant and phosphate ester of the formula:



where R_{44} - R_{46} are each C_8 - C_{20} alkyl or alkylphenol and n_4 , m_{41} , and m_{42} are each 1-30 (col.1, lines 5-7, col.3, lines 14-34, and col.10, lines 30-34). Given that Momose discloses ink comprising phosphate ester and cationic polymer as presently claimed, it is clear that the ink would inherently possess reduced kogation as presently claimed.

In light of the above, it is clear that Momose anticipate the present claims.

9. Claims 12-14 are rejected under 35 U.S.C. 102(b) as being anticipated by EP 499425.

EP 499425 discloses ink jet ink comprising colorant and aliphatic phosphate ester or ethoxylated phosphate ester (page 2, lines 1-2, page4, lines 4 and 33, and page 4, line 58-col.5, line 27). Given that EP 499425 discloses ink comprising phosphate ester and cationic polymer as presently claimed, it is clear that the ink would inherently possess reduced kogation as presently claimed.

In light of the above, it is clear that EP 499425 anticipate the present claims.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

11. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

12. Claims 1-10 and 15-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ma et al. (U.S. 2004/0063808) in view of Sader et al. (U.S. 6,610,129)

Ma et al. disclose fixer fluid comprising vehicle, 0.2-15% cationic polymer such as polybiguanide, polyguanide, and polyethyleneimine, organic acid such as succinic acid and 0.05-5% surfactant. There is also disclosed method of producing fixer fluid comprising combining cationic polymer and surfactant in water (paragraphs 1, 8, 12, 19, 22-23, and 25).

The difference between Ma et al. and the present claimed invention is the requirement in the claims of phosphate ester surfactant.

Sader et al., which is drawn to ink jet ink, disclose the use of 0.2-5% phosphate ester of the formula $(RE_x)_yPO_{4-y}H_{3-y}$ where R is hydrocarbon group of at least 8 carbons, E is ethoxy group, x is integer greater than 0, and y is 1-3. The motivation for using such phosphate ester is for fogging resistance and improvement in the rate of resistor failure of ink jet printer (col.5, lines 10-32 and col.6, lines 54-62). It is noted that Sader et al. is drawn to ink while Ma et al. is drawn to fixer fluid. However, the fixer fluid of Ma et al. is also utilized in ink jet printer as is the ink of Sader et al. and Sader et al. teaches the use of phosphate ester for fogging resistance and improvement in the rate of resistor failure of ink jet printer which would also be significant to the fixer fluid of Ma et al.

Given that Ma et al. in combination with Sader et al. disclose fixer fluid comprising phosphate ester and cationic polymer as presently claimed, it is clear that the fixer fluid would inherently not precipitate with the cationic polymer as presently claimed.

In light of the motivation for using phosphate ester disclosed by Sader et al. as described above, it therefore would have been obvious to one of ordinary skill in the art to use such phosphate ester in the fixer fluid of Ma et al. in order to reduce fogging and improve rate of resistor failure of ink jet printer, and thereby arrive at the claimed invention.

13. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ma et al. in view of Sader et al. as applied to claims 1-10 and 15-18 above, and further in view of Hermansky (U.S. 2005/0155516).

The difference between Ma et al. in view of Sader et al. and the present claimed invention is the requirement in the claims of cationic surfactant.

Hermansky, which is drawn to fixer fluid, disclose the use of cationic surfactant in the fixer fluid in order to improve image properties of the ink, used with the fixer fluid, such as waterfastness and chroma (paragraphs 81 and 83).

In light of the above, it therefore would have been obvious to one of ordinary skill in the art to use cationic surfactant in the fixer fluid of Ma et al. in order to produce fixer fluid that improves image properties of the ink, and thereby arrive at the claimed invention.

14. Claims 19-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ma et al. (U.S. 2004/0063808) in view of Tomioka et al. (U.S. 2003/0103121).

Ma et al. disclose fixer fluid comprising vehicle, 0.2-15% cationic polymer such as polybiguanide, polyguanide, and polyethyleneimine, organic acid such as succinic acid and 0.05-5% surfactant. There is also disclosed method of producing fixer fluid comprising combining cationic polymer and surfactant in water (paragraphs 1, 8, 12, 19, 22-23, and 25).

The difference between Ma et al. and the present claimed invention is the requirement in the claims of phosphate ester surfactant.

Tomioka et al., which is drawn to liquid composition for use with ink, i.e. fixer fluid, disclose the use of 0.05-5% amphoteric phosphate ester surfactant in order to control

penetrability of the fixer into the recording medium (paragraph 165 (lines 5-8, 28-30, and 39-42)).

Given that Ma et al. in combination with Tomioka et al. disclose fixer fluid comprising phosphate ester and cationic polymer as presently claimed, it is clear that the fixer fluid would inherently possess reduced fogging as presently claimed and that the phosphate ester would inherently not precipitate with the cationic polymer as presently claimed.

In light of the motivation of using phosphate ester disclosed by Tomioka et al. as described above, it therefore would have been obvious to one of ordinary skill in the art to use the phosphate ester in the fixer fluid of Ma et al. in order to produce fixer with desired penetrability into substrate, and thereby arrive at the claimed invention.

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Lee et al. (U.S. 2004/0055504) disclose composition comprising phosphate ester, however, no disclosure of cationic polymer as presently claimed.

Doi (U.S. 6,988,795) disclose ink comprising phosphate ester surfactant such as phosphate ester solvent of ethylene oxide adduct of higher alcohol.

Katsuragi (U.S. 6,607,266) disclose fixer fluid comprising phosphate ester, however, there is no disclosure of cationic polymer as presently claimed.


EP 425150 disclose, similar to Momose (U.S. 6,749,675) and EP 499425, ink comprising colorant and phosphate ester.

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16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Callie E. Shosho whose telephone number is 571-272-1123. The examiner can normally be reached on Monday-Friday (6:30-4:00) Alternate Fridays Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Callie E. Shosho
Primary Examiner
Art Unit 1714

CS
5/13/06